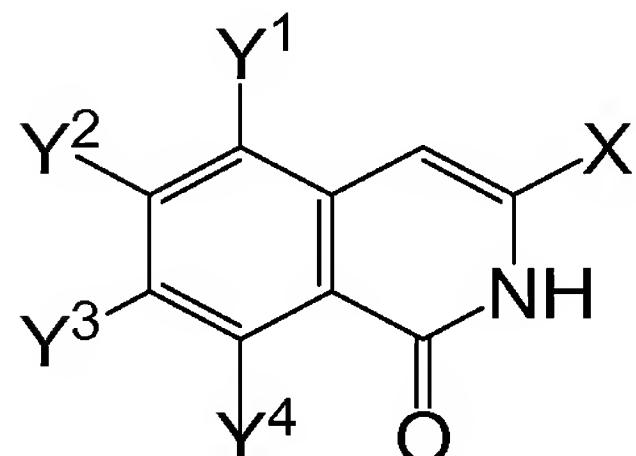


**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Currently amended) A compound represented by the following formula (1) :



(1)

wherein,

Y<sup>1</sup> and Y<sup>4</sup> are independently selected from a hydrogen atom and a halogen atom,

either one of Y<sup>2</sup> and Y<sup>3</sup> represents -NR<sup>1</sup>R<sup>2</sup>, and the other represents a hydrogen atom or a halogen atom;

X represents an aryl group or a heteroaryl group, and the aryl group or heteroaryl group may be substituted with one or more substituents selected from Group A;

Group A consists of a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group,

-OR<sup>11</sup>, and -NR<sup>12</sup>R<sup>13</sup>), a C<sub>2-7</sub> alkenyl group (wherein the C<sub>2-7</sub> alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, an aryl group, and a heteroaryl group), a C<sub>2-7</sub> alkynyl group (wherein the C<sub>2-7</sub> alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, which may be substituted with -OR<sup>11</sup> or -NR<sup>12</sup>R<sup>13</sup>, an aryl group, an aryl C<sub>1-6</sub> alkyl group, and a heteroaryl group), -S(O)<sub>n</sub>R<sup>14</sup> (wherein n represents an integer between 0 and 2), a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, -OR<sup>11</sup>, -NR<sup>12</sup>R<sup>13</sup>, and a halogen atom), a 4- to 7-membered hetero ring group (wherein the hetero ring group may be substituted with one or more substituents selected from Group D), an aryloxy group, a heteroaryloxy group, and a C<sub>1-6</sub> alkylenedioxy group; wherein R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, and R<sup>14</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, an amino group, a C<sub>1-6</sub>

alkylamino group, a di(C<sub>1-6</sub> alkyl)amino group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R<sup>12</sup> and R<sup>13</sup>, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom;

R<sup>1</sup> represents a hydrogen atom, or a C<sub>1-8</sub> alkyl group that may be substituted with one or more substituents selected from Group B;

R<sup>2</sup> represents a C<sub>1-8</sub> alkyl group substituted with one or more substituents selected from Group B; or R<sup>2</sup> represents -COOR<sup>3</sup>, -COR<sup>4</sup>, -COSR<sup>5</sup>, -CONR<sup>6</sup>R<sup>7</sup>, -NR<sup>22</sup>R<sup>23</sup>, or -N=CR<sup>24</sup>R<sup>25</sup>; or R<sup>1</sup> and R<sup>2</sup>, together with a nitrogen atom to which they are bonded, may form a 4- to 10-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring may be substituted with one or more substituents selected from Group C); wherein

R<sup>3</sup> represents a hydrogen atom, a C<sub>1-8</sub> alkyl group, a C<sub>2-7</sub> alkenyl group, a C<sub>2-7</sub> alkynyl group (wherein the alkyl group, alkenyl group, and alkynyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C<sub>1-6</sub> alkoxy group, and a phenyl group), a C<sub>3-8</sub> cycloalkyl group, an aryl group, and a heteroaryl group), a C<sub>3-8</sub> cycloalkyl group, an aryl group, or a heteroaryl group;

$R^4$  is selected from a hydrogen atom, a  $C_{1-8}$  alkyl group that is substituted with one or more  $R^{20}$ 's, 1-naphthyl group, 2-naphthyl group~~an aryl group~~, and a heteroaryl group;

$R^5$  is selected from a hydrogen atom, a  $C_{1-8}$  alkyl group, an aryl group, and a heteroaryl group;

$R^{20}$  represents a hydroxyl group, a halogen atom, an aryl group, a heteroaryl group, a  $C_{1-6}$  alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, an aryl group, and a heteroaryl group), an aryloxy group, a heteroaryloxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a  $C_{1-8}$  alkyl group, an aryl group, an aryl  $C_{1-6}$  alkyl group, a heteroaryl group, and  $-COOR^{21}$ ), or a 4- to 7-membered hetero ring group containing at least one nitrogen atom (wherein the hetero ring group may be substituted with a  $C_{1-8}$  alkyl group);

$R^{21}$  represents a  $C_{1-8}$  alkyl group, an aryl  $C_{1-6}$  alkyl group, or an aryl group;

$R^6$  and  $R^7$  are independently selected from a hydrogen atom, a  $C_{1-8}$  alkyl group, an aryl group, and a heteroaryl group;

$R^{22}$  and  $R^{23}$  are independently selected from a hydrogen atom, a  $C_{1-8}$  alkyl group, an aryl group, and a heteroaryl group;

$R^{24}$  and  $R^{25}$  are independently selected from a hydrogen atom, a  $C_{1-8}$  alkyl group, an aryl group, and a heteroaryl group;

Group B consists of a halogen atom, a C<sub>1-6</sub> alkylcarbonyl group, a C<sub>1-6</sub> alkylaminocarbonyl group, a C<sub>1-6</sub> alkoxycarbonyl group, an aryl group (wherein the aryl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, a C<sub>1-8</sub> haloalkyl group, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, and a C<sub>1-6</sub> haloalkoxy group), a heteroaryl group, -OR<sup>31</sup>, and -NR<sup>32</sup>R<sup>33</sup>; wherein

R<sup>31</sup>, R<sup>32</sup>, and R<sup>33</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, an aryl group, an amino group, a C<sub>1-6</sub> alkylamino group, and a di(C<sub>1-6</sub> alkyl)amino group), an aryl group, a heteroaryl group, and -COOR<sup>34</sup>; wherein R<sup>34</sup> represents a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, or an aryl group; or

R<sup>32</sup> and R<sup>33</sup>, together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring group may be substituted with one or more groups selected from Group D);

Group C consists of an aryl group, a heteroaryl group, a C<sub>1-6</sub> alkylcarbonyl group, a C<sub>1-6</sub> alkylaminocarbonyl group, a C<sub>1-6</sub> alkoxycarbonyl group, a hydroxyl group, a C<sub>1-8</sub> alkyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkyl group and alkoxy group may be substituted with one or more substituents selected from a halogen

atom, an aryl group, a heteroaryl group,  $-\text{NR}^{41}\text{R}^{42}$ , and  $-\text{OR}^{43}$ ), an aryloxy group, and a heteroaryloxy group; wherein

$\text{R}^{41}$ ,  $\text{R}^{42}$ , and  $\text{R}^{43}$  are independently selected from a hydrogen atom, a  $\text{C}_{1-8}$  alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a  $\text{C}_{1-6}$  alkoxy group, an amino group, a  $\text{C}_{1-6}$  alkylamino group, and a di( $\text{C}_{1-6}$  alkyl)amino group), an aryl  $\text{C}_{1-6}$  alkyl group, an aryl group, and a heteroaryl group; or

$\text{R}^{41}$  and  $\text{R}^{42}$ , together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; and

Group D consists of a halogen atom, an aryl group, a heteroaryl group, an aryloxy group, a heteroaryloxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a  $\text{C}_{1-8}$  alkyl group, a hydroxy  $\text{C}_{1-6}$  alkyl group, a  $\text{C}_{1-6}$  alkoxy  $\text{C}_{1-6}$  alkyl group, a  $\text{C}_{1-6}$  alkylamino  $\text{C}_{1-6}$  alkyl group, a di( $\text{C}_{1-6}$  alkyl)amino  $\text{C}_{1-6}$  alkyl group, an aryl group, an aryl  $\text{C}_{1-6}$  alkyl group, and a heteroaryl group), a hydroxyl group, a  $\text{C}_{1-6}$  alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a  $\text{C}_{1-6}$  alkoxy group, a  $\text{C}_{1-6}$  alkylamino group, and di( $\text{C}_{1-6}$  alkyl)amino group), a  $\text{C}_{1-6}$  alkoxy carbonyl group, a  $\text{C}_{1-8}$  alkyl group (wherein the alkyl group may be substituted with one or more substituents selected

from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkoxycarbonyl group, an amino group, an aryl group, a heteroaryl group, a C<sub>1-6</sub> alkylamino group, and a di(C<sub>1-6</sub> alkyl)amino group; or a pharmaceutically acceptable salt of said compound.

**2. (Previously presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y<sup>3</sup> represents -NR<sup>1</sup>R<sup>2</sup>.

**3. (Currently Amended)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein

Y<sup>1</sup>, Y<sup>2</sup>, and Y<sup>4</sup> represent a hydrogen atom; Y<sup>3</sup> represents -NR<sup>1</sup>R<sup>2</sup>;

X represents an aryl group or a heteroaryl group, and the aryl group may be substituted with one or more substituents selected from Group A;

Group A consists of a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom and -NR<sup>12</sup>R<sup>13</sup>), a halogen atom, a hydroxyl group, an aryl group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group and an aryl group), -SR<sup>14</sup>, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from -OR<sup>11</sup> and a

halogen atom), and a 4- to 7-membered hetero ring group (wherein the nitrogen atom of the hetero ring group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group and a C<sub>1-6</sub> alkoxy carbonyl group); wherein

R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, and R<sup>14</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group, and an aryl group; or R<sup>12</sup> and R<sup>13</sup>, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom;

R<sup>1</sup> represents a hydrogen atom, or a C<sub>1-8</sub> alkyl group that may be substituted with one or more substituents selected from Group B;

R<sup>2</sup> represents a C<sub>1-8</sub> alkyl group substituted with one or more substituents selected from Group B, -COOR<sup>3</sup>, -COR<sup>4</sup>, -COSR<sup>5</sup>, -CONR<sup>6</sup>R<sup>7</sup>, -NR<sup>22</sup>R<sup>23</sup>, or -N=CR<sup>24</sup>R<sup>25</sup>; or R<sup>1</sup> and R<sup>2</sup>, together with a nitrogen atom to which they are bonded, may form a 4- to 10-membered hetero ring containing at least one nitrogen atom (wherein the hetero ring may be substituted with one or more substituents selected from Group C); wherein

R<sup>3</sup> represents a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C<sub>1-6</sub> alkoxy group,

and a phenyl group), a C<sub>3-8</sub> cycloalkyl group, an aryl group, and a heteroaryl group), a C<sub>2-7</sub> alkenyl group, a C<sub>2-7</sub> alkynyl group, a C<sub>3-8</sub> cycloalkyl group, an aryl group, or a heteroaryl group;

R<sup>4</sup> is selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group that is substituted with one or more R<sup>20</sup>s, 1-naphthyl group, 2-naphthyl group~~an aryl group~~, and a heteroaryl group, and R<sup>5</sup> is selected from a C<sub>1-8</sub> alkyl group and an aryl group;

R<sup>20</sup> represents a hydroxyl group, a halogen atom, an aryl group, a heteroaryl group, a C<sub>1-6</sub> alkoxy group, an aryloxy group, an aryl C<sub>1-6</sub> alkoxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, an aryl group, and -COOR<sup>21</sup>), or a 4- to 7-membered hetero ring group containing at least one nitrogen atom (wherein the hetero ring group may be substituted with a C<sub>1-8</sub> alkyl group);

R<sup>21</sup> represents a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, or an aryl group;

R<sup>6</sup> and R<sup>7</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group, and an aryl group;

R<sup>22</sup>, R<sup>23</sup>, R<sup>24</sup>, and R<sup>25</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group, an aryl group, and a heteroaryl group;

Group B consists of a halogen atom, a C<sub>1-6</sub> alkoxy carbonyl group, an aryl group, -OR<sup>31</sup>, and -NR<sup>32</sup>R<sup>33</sup>; wherein

$R^{31}$ ,  $R^{32}$ , and  $R^{33}$  are independently selected from a hydrogen atom, a  $C_{1-8}$  alkyl group, an aryl  $C_{1-6}$  alkyl group, an aryl group, a heteroaryl group, and  $-COOR^{34}$ ; wherein  $R^{34}$  represents a  $C_{1-8}$  alkyl group, an aryl  $C_{1-6}$  alkyl group, or an aryl group; or

$R^{32}$  and  $R^{33}$ , together with a nitrogen atom to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; and

Group C consists of a  $C_{1-6}$  alkoxy carbonyl group, a hydroxyl group, a  $C_{1-8}$  alkyl group, an aryl  $C_{1-6}$  alkoxy  $C_{1-8}$  alkyl group, a hydroxy  $C_{1-8}$  alkyl group, an aryloxy group, and a heteroaryloxy group.

**4. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein  $R^1$  and  $R^2$ , together with a nitrogen atom to which they are bonded, form a 4- to 10-membered hetero ring containing at least one nitrogen atom, wherein the hetero ring may have a substituent selected from Group C.

**5. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein  $Y^2$  or  $Y^3$  represents a morpholinyl group, an azetidinyl group, a pyrrolidinyl group, or piperidinyl group, and the hetero ring group may be substituted with one or more substituents

selected from a hydroxyl group and a hydroxy C<sub>1-6</sub> alkyl group.

**6. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y<sup>2</sup> or Y<sup>3</sup> represents a morpholinyl group, an azetidinyl group, a pyrrolidinyl group, a 3-hydroxypyrrolidinyl group, a 2-hydroxymethylpyrrolidinyl group, a 3-hydroxymethylpyrrolidinyl group, a piperidinyl group, a 3-hydroxypiperidinyl group, a 4-hydroxypiperidinyl group, a 2-hydroxymethylpiperidinyl group, a 3-hydroxymethylpiperidinyl group, a 4-hydroxymethylpiperidinyl group, or a 4-hydroxy-4-hydroxymethylpiperidinyl group.

**7. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein

R<sup>1</sup> represents a hydrogen atom or a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from Group B); and

R<sup>2</sup> represents a C<sub>1-8</sub> alkyl group substituted with one or more substituents selected from Group B, -COOR<sup>3</sup>, or -COCH<sub>2</sub>NHCOOR<sup>21</sup>.

**8. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein

R<sup>1</sup> represents a hydrogen atom; and

R<sup>2</sup> represents -COOR<sup>3</sup>, -COSR<sup>5</sup>, -CONR<sup>6</sup>R<sup>7</sup>, or -COR<sup>4</sup>.

**9. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein R<sup>2</sup> represents -COOR<sup>3</sup>.

**10. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 9, wherein R<sup>3</sup> represents a C<sub>1-8</sub> alkyl group, a C<sub>2-7</sub> alkenyl group, or a C<sub>2-7</sub> alkynyl group (wherein the alkyl group, alkenyl group, and alkynyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, or a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C<sub>1-6</sub> alkoxy group, and a phenyl group)).

**11. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 10, wherein R<sup>3</sup> represents a C<sub>1-8</sub> alkyl group that is substituted with one or more hydroxyl groups, a C<sub>2-7</sub> alkenyl group that is substituted with one or more hydroxyl groups, or a C<sub>2-7</sub> alkynyl group that is substituted with one or more hydroxyl groups.

**12. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 11,

wherein R<sup>3</sup> represents a C<sub>1-6</sub> alkyl group that is substituted with one or more hydroxyl groups.

**13. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y<sup>2</sup> or Y<sup>3</sup> represents a bis(hydroxy C<sub>1-6</sub> alkyl)amino group, a methyl(hydroxy C<sub>1-6</sub> alkyl)amino group, a hydroxy C<sub>1-6</sub> alkylamino group, a methyl(morpholinyl C<sub>1-6</sub> alkyl)amino group, an amino C<sub>1-6</sub> alkylamino group, a C<sub>1-6</sub> alkoxycarbonylamino group, or a hydroxy C<sub>1-6</sub> alkoxycarbonylamino group.

**14. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein Y<sup>2</sup> or Y<sup>3</sup> represents a bis(2-hydroxyethyl)amino group, a methyl(2-hydroxyethyl)amino group, a 2-hydroxyethylamino group, a methyl(2-morpholin-4-ylethyl)amino group, a methyl(2-aminoethyl)amino group, or a 2-hydroxyethyloxycarbonylamino group.

**15. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A.

**16. (Previously Presented)** The compound, or

pharmaceutically acceptable salt thereof according to claim 1, wherein X represents a phenyl group, and the phenyl group may be substituted with one or more substituents selected from Group A.

**17. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein

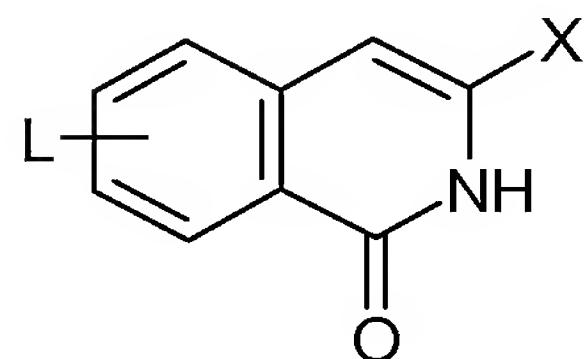
X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A; and

Group A consists of a C<sub>1-8</sub> alkyl group that is substituted with one or more halogen atoms, an aryl group, a C<sub>1-6</sub> alkylthio group, a di(C<sub>1-6</sub> alkyl)amino group, a 4- to 7-membered hetero ring group containing at least one nitrogen atom, a C<sub>1-8</sub> alkyl group, a C<sub>2-7</sub> alkenyl group, a C<sub>2-7</sub> alkynyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more halogen atoms), and a hydroxyl group.

**18. (Previously Presented)** The compound, or pharmaceutically acceptable salt thereof according to claim 1, wherein X represents a phenyl group, and the phenyl group may be substituted with one or more substituents selected from an ethyl group, a trifluoromethyl group, a trifluoromethoxy group, a methylthio group, a methoxy group, a chloro group, a phenyl group, a dimethylamino group, a morpholinyl group, a

piperidinyl group, and a pyrrolidinyl group.

**19. (Previously Presented)** A compound represented by the following formula IV:



IV

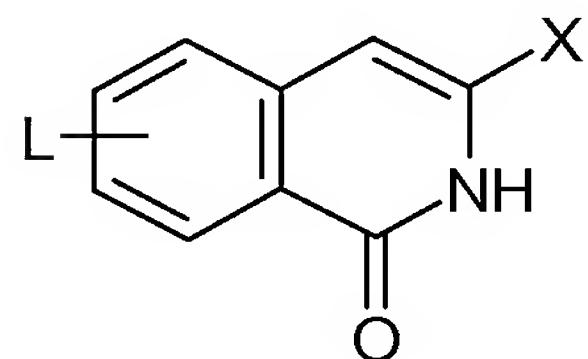
wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be substituted with one or more substituents selected from Group A; and L represents a fluorine atom, a bromine atom, or an iodine atom that is bonded to the 6- or 7- position on an isoquinolone ring;

Group A consists of a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group, -OR<sup>11</sup>, and -NR<sup>12</sup>R<sup>13</sup>), a C<sub>2-7</sub> alkenyl (wherein the C<sub>2-7</sub> alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, an aryl group, and a heteroaryl group), a C<sub>2-7</sub> alkynyl group (wherein the C<sub>2-7</sub> alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub>

alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, which may be substituted with -OR<sup>11</sup> or -NR<sup>12</sup>R<sup>13</sup>, an aryl group, an aryl C<sub>1-6</sub> alkyl group, and a heteroaryl group), -S(O)<sub>n</sub>R<sup>14</sup> (wherein n represents the integer between 0 and 2), a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, -OR<sup>11</sup>, -NR<sup>12</sup>R<sup>13</sup>, and a halogen atom), a 4-to 7-membered hetero ring group (wherein the hetero ring group may be substituted with one or more substituents selected from Group D), an aryloxy group, a heteroaryloxy group, and a C<sub>1-6</sub> alkylenedioxy group; wherein R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, and R<sup>14</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, an amino group, a C<sub>1-6</sub> alkylamino group, a di(C<sub>1-6</sub> alkyl) amino group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R<sup>12</sup> and R<sup>13</sup>, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; Group D consists of a halogen atom, an aryl group, a heteroaryl group, an aryloxy group, a heteroaryloxy group, an

amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, a hydroxyl C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkoxy C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkylamino C<sub>1-6</sub> alkyl group, a di(C<sub>1-6</sub> alkyl) amino C<sub>1-6</sub> alkyl group, an aryl group, an aryl C<sub>1-6</sub> alkyl group, and a heteroaryl group), a hydroxyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkylamino group, and di(C<sub>1-6</sub> alkyl) amino group), a C<sub>1-6</sub> alkoxycarbonyl group, a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkoxycarbonyl group, an amino group, an aryl group, a heteroaryl group, a C<sub>1-6</sub> alkylamino group, and a di(C<sub>1-6</sub> alkyl) amino group).

**20. (Previously Presented)** A method for producing the compound according to claim 1, which comprises amination of a compound represented by the following formula IV:



IV

wherein X represents a phenyl group or a heteroaryl group, and the phenyl group or heteroaryl group may be

substituted with one or more substituents selected from Group A; and L represents a fluorine atom, a bromine atom, or an iodine atom that is bonded to the 6- or 7- position on an isoquinolone ring;

Group A consists of a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group, -OR<sup>11</sup>, and -NR<sup>12</sup>R<sup>13</sup>), a C<sub>2-7</sub> alkenyl (wherein the C<sub>2-7</sub> alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, an aryl group, and a heteroaryl group), a C<sub>2-7</sub> alkynyl group (wherein the C<sub>2-7</sub> alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C<sub>1-8</sub> alkyl group, an aryl C<sub>1-6</sub> alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, which may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, which may be substituted with -OR<sup>11</sup>, -NR<sup>12</sup>R<sup>13</sup>, an aryl group, an aryl C<sub>1-6</sub> alkyl group, and a heteroaryl group), -S(O)<sub>n</sub>R<sup>14</sup> (wherein n represents the integer between 0 and 2), a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, -OR<sup>11</sup>,

-NR<sup>12</sup>R<sup>13</sup>, and a halogen atom), a 4-to 7-membered hetero ring group (wherein the hetero ring group may be substituted with one or more substituents selected from Group D), an aryloxy group, a heteroaryloxy group, and a C<sub>1-6</sub> alkylendioxy group; wherein R<sup>11</sup>, R<sup>12</sup>, R<sup>13</sup>, and R<sup>14</sup> are independently selected from a hydrogen atom, a C<sub>1-8</sub> alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, an amino group, a C<sub>1-6</sub> alkylamino group, a di(C<sub>1-6</sub> alkyl) amino group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R<sup>12</sup> and R<sup>13</sup>, together with nitrogen to which they are bonded, may form a 4- to 7-membered hetero ring containing at least one nitrogen atom; Group D consists of a halogen atom, an aryl group, a heteroaryl group, an aryloxy group, a heteroaryloxy group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C<sub>1-8</sub> alkyl group, a hydroxyl C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkoxy C<sub>1-6</sub> alkyl group, a C<sub>1-6</sub> alkylamino C<sub>1-6</sub> alkyl group, a di(C<sub>1-6</sub> alkyl) amino C<sub>1-6</sub> alkyl group, an aryl group, an aryl C<sub>1-6</sub> alkyl group, and a heteroaryl group), a hydroxyl group, a C<sub>1-6</sub> alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkylamino group, and di(C<sub>1-6</sub> alkyl) amino group), a C<sub>1-6</sub> alkoxycarbonyl group, a C<sub>1-8</sub> alkyl group (wherein the alkyl

group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C<sub>1-6</sub> alkoxy group, a C<sub>1-6</sub> alkoxycarbonyl group, an amino group, an aryl group, a heteroaryl group, a C<sub>1-6</sub> alkylamino group, and a di(C<sub>1-6</sub> alkyl) amino group.

**21. (Previously Presented)** A pharmaceutical composition, which comprises, as an active ingredient, the compound, or pharmaceutically acceptable salt thereof according to claim 1.

**Claims 22-23 (Cancelled) .**